

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A display drafting apparatus comprising:

means for selecting a representation of a signal or data of a controlled system, where the signal or the data is stored in a memory of a controller~~device of a controller for use~~; and

means for setting up display drafting information for said selected ~~device~~signal or data comprising a display component, a display mode and a display function,

wherein the means for selecting are used to select the representation of the signal or data~~device~~ before the means for setting up are used to set up the display drafting information, ~~and wherein the device of the controller represents a signal or data stored in a memory of the controller.~~

2. (currently amended): The display drafting apparatus according to claim 1, further comprising means for saving only ~~device~~signal or data selection information ~~for the controller~~, selected by said ~~device~~signal or data selecting means, wherein the ~~device~~signal or data selection information can be saved, even if said selected representation of the ~~device~~signal or data is a ~~device~~representation of the signal or data for which the display drafting information is not set up.

3. (currently amended): The display drafting apparatus according to claim 1,

additionally having a function of a control program schema generator for said controller therein, further comprising:

means for allowing the ~~device~~signal or data selection information ~~for said controller~~, selected by said ~~device~~signal or data selecting means to be used with said control program schema generator.

4. (currently amended): The display drafting apparatus according to claim 3, further comprising:

means for appending a comment to the representation of the device~~signal or data of said controller~~ selected by said ~~device~~signal or data selecting means, and

means for sharing the appended comment between said display drafting apparatus and said control program schema generator.

5. (currently amended): The display drafting apparatus according to claim 1, further comprising:

control program schema generating means for said controller, and

means for allowing the use of the ~~device~~signal or data selection information ~~for said controller~~, selected by said ~~device~~signal or data selecting means, when a program schema is generated by said generating means.

6. (currently amended): A display drafting system comprising:

a display;
a programmable controller coordinating and controlling operation of a controlled system;
and

a display drafting apparatus comprising:

means for selecting a signal or data ~~device of the controlled system, said signal or data representing an operation controlled by the programmable controller~~~~said controller~~
for use,

means for setting up display drafting information for said selected signal or data
~~device~~;

a control program schema generating means; and

means for allowing the use of the ~~device~~ signal or data selection information for
~~said controller~~, selected by said ~~device~~ signal or data selecting means, when a program
schema is generated by said generating means,

wherein the means for selecting of the display drafting apparatus are used to select a
~~device~~ the signal or data before the means for setting up of the display drafting apparatus are
used to set up the display drafting information, ~~and wherein the device of the controller represents~~
~~a signal or data of the controlled system.~~

7. (previously presented): The display drafting system according to claim 6, wherein
when the display drafting system is connected in series in the order of the display drafting
apparatus, the display, and the controller via a communication line, the display drafting system

further comprises means for transferring drafting data among drafting data created by the display drafting apparatus and control program data to the display and the control program data via the display to the controller.

8. (previously presented): The display drafting system according to claim 6, wherein when the display drafting system is connected in series in the order of the display drafting apparatus, the controller and the display via a communication line, the display drafting system further comprises means for transferring a control program data among a drafting data created by the display drafting apparatus and the control program data to the controller and the drafting data via the controller to the display.

9. (currently amended): A display drafting method comprising:

selecting a signal or data of a controlled system, where the signal or the data is stored in a memory of a controller and the controller controls operations of the controlled system ~~device of a controller for use~~; and

setting up a display drafting information for said selected ~~device~~ signal or data after said ~~device~~ signal or data is selected, ~~wherein the device represents a signal or data involved in an operation of a system being controlled by the controller.~~

10. (currently amended): The display drafting method according to claim 9, wherein said selecting the signal or data device further comprises selecting a ~~device~~signal or data symbol and selecting a signal or data device number.

11. (previously presented): The display drafting method according to claim 9, wherein said setting up the display drafting information further comprises setting up a display component, display mode and display function.

12. (currently amended): The display drafting method according to claim 10, further comprising changing at least one of said ~~device~~signal or data symbol and said ~~device~~signal or data number after setting up part of said display drafting information.

13. (previously presented): The display drafting method according to claim 9, further comprising interrupting said setting up the display drafting information to save data of said display drafting information.

14. (currently amended): The display drafting method according to claim 9, further comprising interrupting said selecting ~~device~~of signal or data ~~of the controller~~ to save data of a ~~device~~said signal or data selection information.

15. (currently amended): The display drafting method according to claim 9, wherein said selected ~~device~~signal or data is used in display drafting and in a design of a control program for said controller, the design of a control program is performed separately from the display drafting.

16. (currently amended): The display drafting method according to claim 15, wherein the control program for the controller is designed using a ladder diagram, and wherein the selected ~~device~~signal or data is stored in a shared memory accessible to both the control program and the display drafting program.

17. (currently amended): The display drafting apparatus according to claim 1, wherein:
the ~~device~~signal or data ~~is represents~~ one of an input signal, an output signal, an auxiliary signal, a count value, a timer value, and a numerical data of a controlled system,
the programmable controller is configured to control the operation of the controlled system, and
the display drafting information informs an operator monitoring the controlled system at least of a type of the signal or data and state of the signal or value of the data.

18. (currently amended): The display drafting apparatus according to claim 9, wherein the ~~device~~signal or data ~~represents~~is one of an input signal, an output signal, an auxiliary signal,

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a count value, a timer value, and a numerical data of a controlled system, the programmable controller is configured to control the operation of the controlled system.

19. (previously presented): The display drafting apparatus according to claim 18,
wherein the controlled system is a production line.